Claims

1. Method of determining a colour formula for matching a selected colour measured with an electronic imaging device, which method comprises the following steps:

   a) an electronic imaging device is calibrated by measuring the colour signals of at least two calibration colours, the colorimetric data of each of the calibration colours being known;

   b) at the same time or in a next step the selected colour is measured with the aid of the electronic imaging device;

   c) using a mathematical model, parameters are calculated for converting the measured colour signals of the calibration colours to the known colorimetric data;

   d) using the mathematical model and the calculated parameters, the colour signals of the measured selected colour are converted to colorimetric data; and

   e) using a databank, the colour formula of which the colorimetric data most closely matches the calculated colorimetric data of the measured selected colour is determined.

2. A method according to claim 1, characterised in that the calibration colours are distributed over the entire colorimetric colour space.

3. A method according to claim 2, characterised in that the calibration colours are distributed in the vicinity of the selected colour.

4. A method according to any of claims 1-3, characterised in that the calibration colours in the vicinity of the selected colour are given greater weight when calculating the model parameters.

5. A method according to any of claims 1-3, characterised in that the electronic imaging device is a flatbed scanner.

6.   A method according to one or more of preceding claims 1-3, characterised in that the electronic imaging device is a digital camera.

5   7.   A method according to one or more of claims 1-3, characterised in that the measurement of the calibration colours and the selected colour takes place simultaneously.

8.   A method according to any of claims 1-3, characterised in that texture
10   parameters can be calculated from the recording of the selected colour and that by using a databank the colour formula can be determined of which the texture parameters most closely match the calculated texture parameters of the measured selected colour.

15   9.   A method according to claim 8, characterised in that a ruler is provided on the calibration pattern.

10.   A method of determining a texture and/or colour formula for matching a selected colour and/or texture of a selected material in which
20   a)   the colour of the selected material is measured with a spectrophotometer or a tri-stimulus meter;
      b)   the texture of the selected material is measured with an electronic imaging device; and
      c)   the measured colour and texture data are used to determine, in a
25   databank, the texture and/or colour formula of which the colorimetric data and the texture data most closely match those of the selected material.

11.   A method according to any one of claims 1-3, 9 or 10, characterised in that
30   the method is carried out in the car repair industry.

12. A method according to any one of claims 1-3, 9 or 10, characterised in that additional information is provided during recording of the selected colour with the electronic imaging device.

5   13. A method of determining the colour difference of a selected colour measured with an electronic imaging device compared to a standard colour sample, which method comprises the following steps:

a) an electronic imaging device is calibrated by measuring the colour signals of at least two calibration colours, the colorimetric data of each

10   of the calibration colours being known;

b) at the same time or in a next step the selected colour is measured with the aid of the electronic imaging device;

c) using a mathematical model, parameters are calculated for converting the measured colour signals of the calibration colours to the known

15   colorimetric data;

d) using the mathematical model and the calculated parameters, the colour signals of the measured selected colour are converted to colorimetric data; and

e) the colorimetric data of the selected colour are compared to the

20   colorimetric data of a standard colour sample.